D 70228 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

(CUCBCSS—UG)

Computer Science

BCS 5B 10—PRINCIPLES OF SOFTWARE ENGINEERING

(2017 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

Answer **all** *questions.*

Each question carries 1 *mark.*

1. State the first step in Software Development Life Cycle (SDLC).
2. Give any *two* examples for Agile model.
3. Name the different types of software system requirements.
4. What is the first step of requirement elicitation ?
5. What is an object in object oriented concepts ?
6. What are the valid relationships in Use Case Diagrams ?
7. Define Auxiliary variable.
8. What is the goal of concurrency control ?
9. Which type of testing will verify both functional and non-functional aspects of the product ?
10. Mention any *two* software re-engineering approaches.

(10 × 1 = 10 marks)

Part B

Answer **all** *questions.*

Each question carries 3 *marks.*

11. What are the umbrella activities of a software process ?
12. What are the Objectives of Requirement Analysis ?
13. What is the purpose of dataflow diagram ? What are the different notations used for it ?

14. What is recursion ? Give example.

15. What does verification and validation represent ?

(5 × 3 = 15 marks)

Part C

Answer any **five** *questions.*
Each question carries 5 *marks.*

16. Explain Waterfall model with a diagram.

17. What activities are addressed during each iteration of the Agile Unified Process ?

18. What kinds of errors are sought out during requirements validation ? Explain.

19. Explain activity diagram with suitable example.

20. Briefly explain the role of GOTO statements in structured coding ?

21. Describe how software requirements are documented ? State the importance of documentation.

22. What are the some of the common ways to achieve software quality ? Explain in detail.

23. What is the difference between reverse engineering and forward engineering ?

(5 × 5 = 25 marks)

Part D

Answer any **three** *questions.*
Each question carries 10 *marks.*

24. Describe the importance of software Engineering ? Explain the different steps in developing a software system.

25. Explain seven distinct requirements engineering functions.

26. Draw class diagram, use case diagram and interaction diagram for bank application.

27. Design an experiment to detect the cost of various run-time checks in a programming language of your choice.

28. What do you mean by system testing ? Explain each types of system tests in detail.

(3 × 10 = 30 marks)